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ABSTRACT

This trainer's guide is intended to assist supervisors of work-based career training projects in helping students understand the operation of an assembly line, including safe working procedures. The guide is one in a series of core curriculum modules that is intended for use in combination on- and off-the-job programs to familiarize youth with the skills, knowledge, an attitudes necessary for success in the workplace. Included in the guide are the following components: project information, a summary of the content and approach of the guide, supervisor's notes, background information, lists of tasks and core skills, an action plan that includes suggested learning activities, supervisor and trainee review sheets, and an assessment form. (YLB)

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Youth Training Scheme

CORE EXEMPLAR WORK BASED PROJECT

Production line materials

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OTF No: 6

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TYPE Individual

ESF
CORE SKILLS PROJECT
YTS

The Further Education Staff College
Coombe Lodge, Blagdon, Bristol, BS18 6RG ✆ 0761-62503

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ASSESSMENT OF CORE SKILLS

This series of projects contains a number of different formats for recording assessment of core skills. These formats are offered for experimental purposes; none is proven as the 'best' method. All are based on the principle that feedback to trainees is a necessary part of the learning process and that such feedback should include information on core skill development.

Further work is being carried out on the methods of assessing achievement of core skills in work-based learning and of how to log such achievement on a record which trainees can take away from YTS. Some of the results of this work will be included in later MSC/ESF Core Skills Project publications.

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CONTENTS

(i) Introduction

(ii) Project Information

(iii) Summary

(iv) Supervisor's Notes

TRAINEE GUIDE

1. Names and Times

2. Background and Situation

3. Purposes

4. - 10. Action Plan

11. Trainee Review

12. Supervisor Review

Project Record Form

INTRODUCTION

WHAT ARE WORK-BASED PROJECTS?

Work-based projects are learning materials which aim to make the most of all the possibilities for developing trainees' skills, knowledge and attitudes in the workplace. They build upon everyday workplace tasks to provide experience of the whole range of YTS learning opportunities.

The projects in this series have been tested with managing agents as part of the YTS Core Project, which is jointly financed by MSC and the European Social Fund. In some cases managing agents will be able to use the projects as they are. In others they will need to be adapted to the circumstances of a particular workplace or to the aims of a particular scheme. Some managing agents will prefer to produce their own projects. For such cases these examples aim to demonstrate some principles of good design in work-based learning materials. These principles are:

To encourage trainees to learn by doing
To make the most of all the experiences which are available to trainees in the workplaces
To start from a real task which is seen as relevant by all parties involved — trainees, workplace supervisors, trainers and off-the-job tutors.
To help trainees see the relationships between things learnt on- and off-the-job.
To base the assessment of achievement upon trainees' actual performance in tasks.
To look for all the opportunities for learning which arise from a task and, in particular, to help trainees to develop the core skills. These skills, in number, communication, problem-solving and practical activities, are used in a wide variety of tasks and are essential if trainees are to achieve competence in those tasks*. They are the skills — of finding out information, planning how to do things, overcoming difficulties and so on — which help trainees to learn more quickly in new situations, either in the same workplace, in a different one, or in the world outside work.

Such skills are required naturally by the workplace tasks in these projects and, in requiring trainees to go beyond the task itself, the projects deliberately *add* to the range of core skills which are required in an everyday working situation. This is especially important for some of the skills of communication and problem-solving which trainees are often not given the opportunity to exercise in work experience.

These principles can be incorporated in projects for all placements and for trainees of all ability levels. Although the projects in this series follow a common format, there is no single 'best' style. Nor is any special expertise in writing necessary. Good work-based projects can be produced by anyone who is determined to help trainees to exploit all of the potential for learning in work experience.

*A technical manual 'Core Skills in YTS' is currently available from MSC. It is supported by a short introductory leaflet and a practitioner's guide for supervisors. A separate manual is available on computer literacy/information technology.

PROJECT INFORMATION

SUBJECT CHOICE: "PRODUCTION LINE - MATERIALS"

The subject was chosen as one of 3 to make up a set of Projects about the operation of a production or assembly line. It was the first of the 3 to be written and is probably the best one to use as an introduction to a production line process.

WHERE IT CAN BE USED/COULD BE USED:

The Project was used originally on an electronic assembly line, but it ought to be able to be used by a trainee in any production or assembly line situation provided that the trainee has access to all the work stations on the line and has time to gather the relevant information.

STAGE(S) IN TRAINING PROGRAMME THE PROJECT WAS/COULD BE USED:

It is not recommended that this Project be used as part of an Induction Programme because it requires the trainee to move around a production area and to contact or speak to a number of people. However, it could be used early in a training programme to begin to familiarise a trainee with the production process.

LINK UP WITH OTHER WORK-BASED PROJECTS:

It links specifically with the 2 other Production Line Projects "Labour " and "Tools and Equipment". It would be appropriate to carry out Projects on safety relevant to a production area in conjunction with this Project.

SPECIAL CIRCUMSTANCES:

This Project could be carried out by trainees who are not actually working on the production line itself but who want or need to know something about the production process.

ADAPTATIONS/MODIFICATIONS:

Depending on the actual items being produced, and whether each operative works at one, or more than one, station, the activities carried out by trainees in noting the materials and sequence of assembly may have to vary to fit in with a particular workplace.

USE OF OFF-THE-JOB TUTOR:

If an off-the-job tutor is available in the workplace, he/she could help the trainee in organising and carrying out the survey of parts, containers and the assembly sequence. Otherwise a tutor could be involved in discussing ideas and suggestions for improving output.

SUMMARY

PRODUCTION LINE - MATERIALS

This Project asks the trainee to:

become familiar with the operation of an assembly/prod line

in particular with respect to materials used by;
recording requirements, examining the order of assembly and
storage of materials necessary in the production process

understanding the roles of colleagues

noting safe working procedures.

SPECIAL FEATURES

Links with

Prod Line - Tools And Equipment

Prod Line - Labour.

SUPERVISOR'S NOTES

In order to allow the trainee to gain the maximum from this Project the following points are suggested.

The area in which the trainee is to work should be an assembly/sub assembly line actually in production.

The trainee should be made aware of any restrictions affecting him/her carrying out the Project e.g. "No-Go" areas, interruption of operator's work etc.

At the end of the Project please discuss with the trainee his/her suggestions which they have made on TABLE 4 - SUGGESTIONS, and also problems they met particular to this Project.

NAMES

Trainee _____

Supervisor _____

TIMES

Fill in the table below. This will show the time you spend on this Project. The first column has been filled in as an example. Make another table if you need more space.

Date	8/3/84					
Start	9·30					
Finish	12·30					TOTAL
Time Spent	3 hours					

BACKGROUND

In any workplace where something is "made" or manufactured, basic materials or parts need to be bought and worked on to produce the finished article. Products of the same kind must look the same and do the job for which they are meant, so all the materials and parts must be available and assembled to a step by step plan. This process is called production. Where a large number of identical goods are to be made a "production" or "assembly line" is used. In some assembly lines a worker may put in only one part, in others an assembly line worker may put together several parts.

SITUATION

Production/Assembly Line.

10

PURPOSES

Doing this Project will help you to learn more about your work. It will also help you to develop your Core Skills (Number, Communication, Problem Solving, Practical and Computer Literacy Skills). Increasing your competence in these skills will make it easier to learn new work skills, change jobs, and retrain when the need arises.

The activities that you will be asked to carry out are listed below, along with the main Core Skills that they contain. These Core Skills are also listed on the "Project Record " Form at the end of the Action Plan and your Supervisor should assess your achievements in these skills as you complete the Project. This record will be needed to complete your Certificate at the end of your YTS Year.

To help you to:	Core Skills:
find out about your company's production line by observing and questioning people	6.1 find out information by speaking to other people 6.3 find out information by observing
monitor the completion of one assembly at each work station in the line	11.2 monitor the process or activity
estimate the quantities of materials/parts held at each work station	3.1 estimate the quantity of observed items or materials
count the number of parts needed to make one assembly at each work station	1.1 count items singly or in batches
record the information about the materials used on the tables provided	7.3 provide information in writing and by means of tables and diagrams
suggest ideas that may make it easier for production workers to do their job	8.4 offer assistance to other people in the workplace

Please read the questions asked in the Trainee Review Section.

ACTION PLAN

Read through this Action Plan carefully before you start.

PREPARATION

Find out from your Supervisor the boundaries or limits of the area in which you are to work. For reasons of safety it is important that you stay within them.

Ask what safety equipment, if any, you are required to wear to complete this Action Plan and find out where you can get the equipment.

Find out where the beginning of the assembly line is and how many work stations there are on it.

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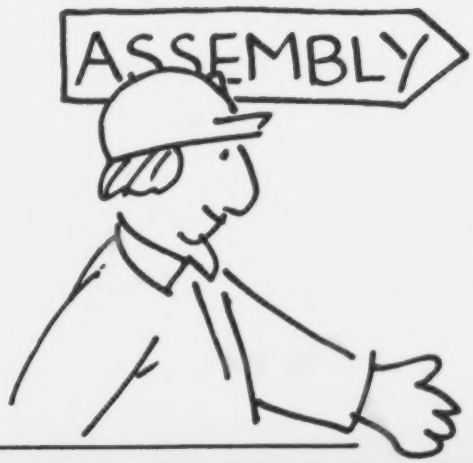

PARTS AND CONTAINERS

5

Start at the first point on the assembly line.

Using TABLE 1 "MATERIALS" record the materials and parts used at each step in the assembly to make ONE product.

Using TABLE 2 "CONTAINERS" record the type of containers in use at each station. Estimate the quantity of parts in each container.

SEQUENCE OF ASSEMBLY

When you get to the end of the assembly line go back to the start and find out how each operator knows how to put his/her part of the assembly together in the correct sequence.

Record this on TABLE 3 "ASSEMBLY".

Find out what happens to the assembled product or part of a product at the end of the assembly line.

SUGGESTIONS

Note any ideas that you have which could make it easier for production line workers to do their jobs on TABLE 4 "SUGGESTIONS".

DISCUSS WITH YOUR SUPERVISOR:

YOUR SUGGESTIONS FOR IMPROVING THE OUTPUT OF THE ASSEMBLY LINE.

ANY PROBLEMS YOU MAY HAVE HAD IN CARRYING OUT THE ACTION PLAN.

How long do you think it will take to carry out this Action Plan?

WHEN YOU HAVE FINISHED

How long did it take to carry out the Action Plan?

Was this more/less than you estimated?

Why?

TABLE 1

MATERIALS AND PARTS USED TO MAKE ONE ASSEMBLY

WORK STATION NUMBER	MATERIALS / PARTS DESCRIPTION	QUANTITY FOR ONE ASSEMBLY

TABLE 2 CONTAINERS 8

CONTAINERS USED TO HOLD MATERIALS AND PARTS

WORK STATION NUMBER	DESCRIPTION OF CONTAINERS	APPROXIMATE QUANTITIES IN EACH

TABLE 3 ASSEMBLY 9

METHODS USED TO INFORM OPERATOR OF CORRECT SEQUENCE OF ASSEMBLY

WORK STATION NUMBER	METHOD e.g. Training, Drawing, Diagram etc.

TABLE 4 SUGGESTIONS 10

SUGGESTIONS

WORK STATION NUMBER	TRAINEE'S IDEAS

TRAINEE REVIEW

These questions may help you to decide what to write.

What did you learn? Remember the PURPOSES or things that you could learn are listed on page 3.

Were any parts of the Action Plan too difficult? Which ones? What did you do?

Were any parts too easy? Which ones?

What was the most interesting part of the Action Plan and why?

How could you follow up this Project? Does it connect with other Projects that you have done?

How could you use what you have learned in this Project in the future?

SUPERVISOR REVIEW

12

Please refer to Supervisor's Notes.

Please read the questions included under Trainee Review.

Please complete the Project Record Form and discuss your assessment with the trainee before initialling it to show that you both agree with the assessment.

COMMENTS:

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PROJECT RECORD FORM

PROJECT TITLE PRODUCTION LINE - MATERIALS WBP NO 5/6 DATE

TRAINEE S NAME SUPERVISOR S NAME

WORK BASED PROJECT		NEEDED A LOT OF ASSISTANCE	NEEDED SOME ASSISTANCE	LITTLE OR NO ASSISTANCE		FURTHER TRAINING NEEDED	COMMENTS INCLUDING NO OPPORTUNITY	AGREED INITIALS	
TASK NO	CORE SKILLS ASSESSED			NEEDS MORE PRACTICE	COMPETENT			TRAINEE	SUPERVISOR
	finding out information by observing people at work stations on the production line 6.3								
	finding out information about the assembly process by speaking to other people 6.1								
	estimating the quantities of observed materials held at each work station 3.1								
	counting the number of items/parts used for each assembly task 1.1								
	providing information in writing by means of the tables contained in this Project 7.3								
	monitoring the process of assembly at each work station 11.2								
	offering assistance to other people in the workplace by suggesting ideas 8.4								